



California Energy Commission

IEPR Committee Workshop

CALIFORNIA ENERGY DEMAND 2011-2022 PRELIMINARY STAFF FORECAST

August 30, 2011 — 10:00 am

LADWP Planning Area Forecast

Demand Analysis Office
Electricity Supply Analysis Division



LADWP Forecast Overview

- 2010 reported consumption was 5% below *CED 2009* forecast
- 2010 weather adjusted peak was 2% above *CED 2009* forecast
- Consumption forecast mid case growth rate is similar to *CED 2009*
- Peak forecast growth rates are higher than *CED 2009* for all cases
- Household growth rates for all three cases is higher than *CED 2009*
- Load factor is projected to continue to decline
- Per capita consumption and peak are lower than *CED 2009*



California Energy Commission

LADWP Planning Area Forecast Results

- Revised and peak higher than draft

Consumption (GWh)				
	CED 2009 (Dec. 2009)	CED 2011 Preliminary-High Energy Demand	CED 2011 Preliminary-Mid Energy Demand	CED 2011 Preliminary-Low Energy Demand
1990	23,263	23,038	23,038	23,038
2000	23,438	24,018	24,018	24,018
2010	25,326	24,073	24,073	24,073
2011	25,589	24,850	24,791	24,631
2015	26,841	26,143	25,929	25,453
2020	27,943	27,784	27,267	26,868
2022	--	28,633	27,930	27,475
Average Annual Growth Rates				
1990-2000	0.07%	0.42%	0.42%	0.42%
2000-2010	0.78%	0.02%	0.02%	0.02%
2011-2015	1.20%	1.28%	1.13%	0.82%
2011-2020	0.98%	1.25%	1.06%	0.97%
2011-2022	--	1.30%	1.09%	1.00%
Peak (MW)				
	CED 2009 (Dec. 2009)	CED 2011 Preliminary-High Energy Demand	CED 2011 Preliminary-Mid Energy Demand	CED 2011 Preliminary-Low Energy Demand
1990	5,341	5,341	5,341	5,341
2000	5,344	5,344	5,344	5,344
2010	5,791	6,204	6,204	6,204
2011	5,846	5,764	5,755	5,720
2015	6,068	6,166	6,108	5,981
2020	6,265	6,648	6,497	6,370
2022	--	6,861	6,656	6,510
Average Annual Growth Rates				
1990-2000	0.01%	0.01%	0.01%	0.01%
2000-2010	0.81%	1.50%	1.50%	1.50%
2011-2015	0.94%	1.70%	1.50%	1.12%
2011-2020	0.77%	1.60%	1.36%	1.20%
2011-2022	--	1.60%	1.33%	1.18%

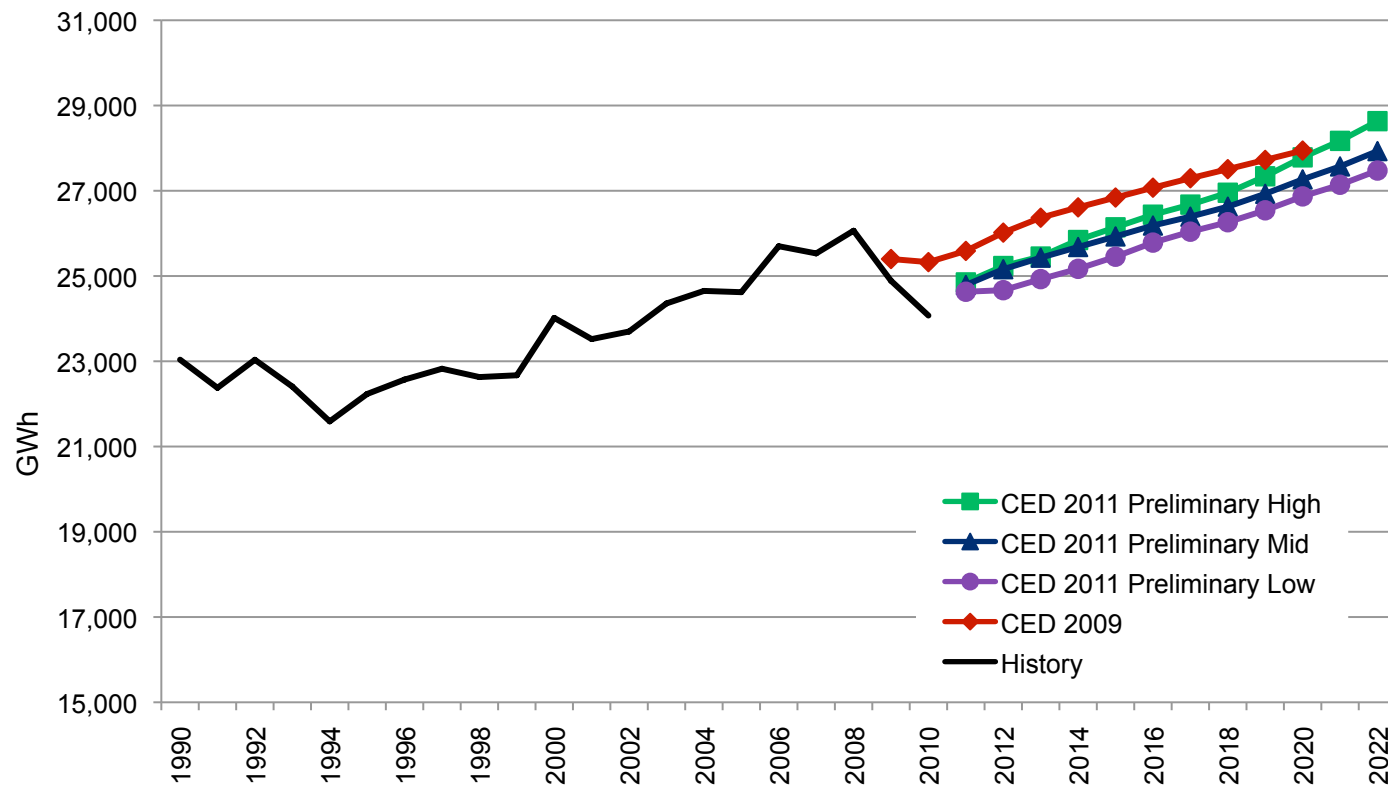
Historical values are shaded



California Energy Commission

LADWP Electricity Consumption Forecast

- Lower starting point, higher growth rates for each scenario

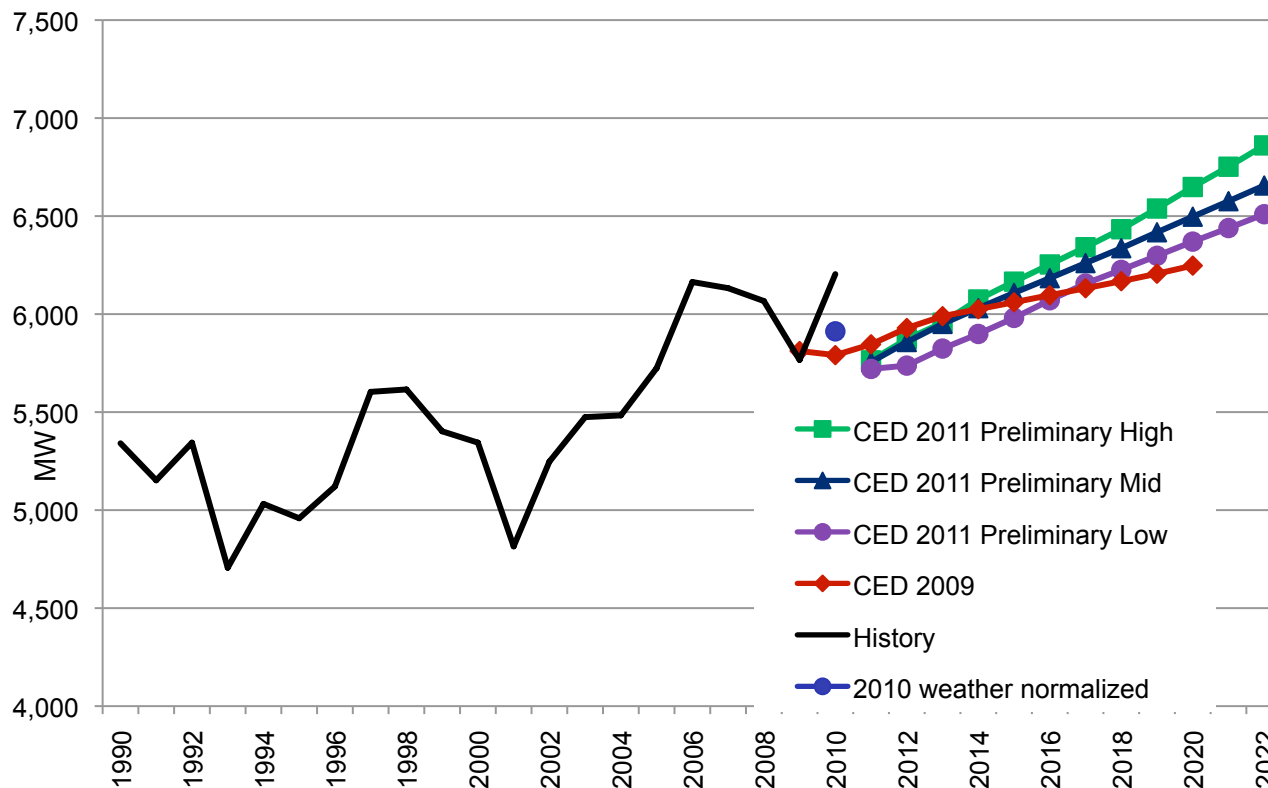




California Energy Commission

LADWP Planning Area Peak Forecast

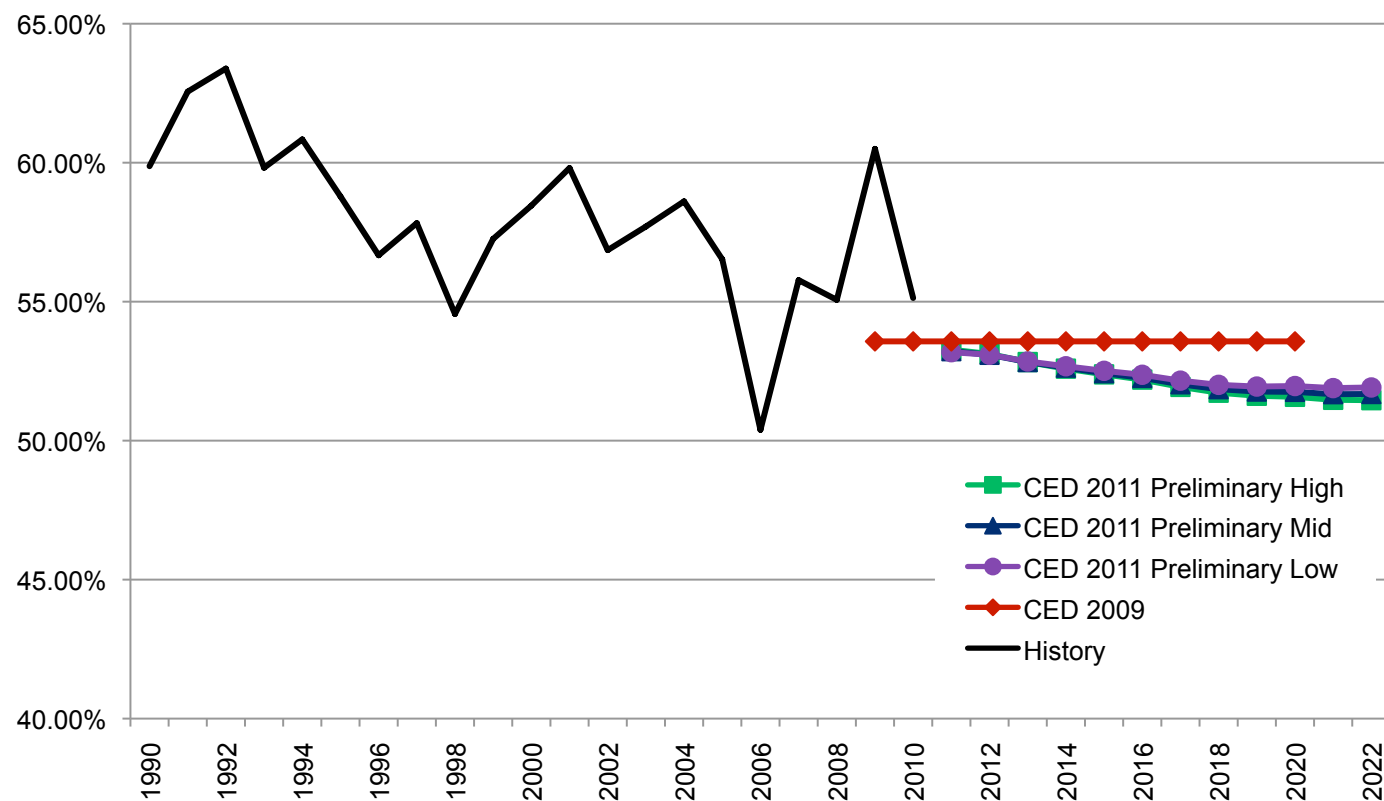
- Faster household growth leads to higher peak growth for all cases





LADWP Planning Area Load Factor

- Residential sector now comprises a larger portion of total load

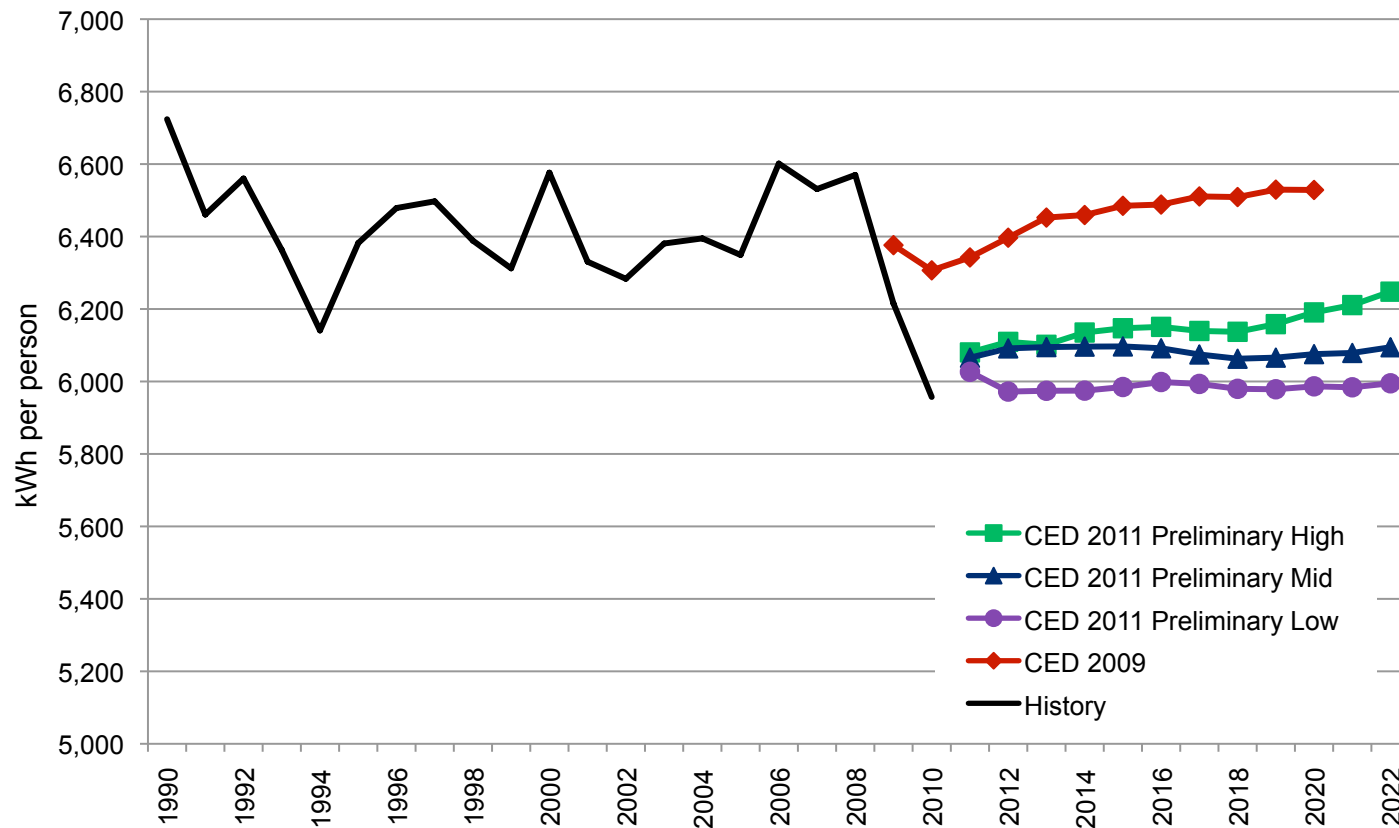




California Energy Commission

LADWP per Capita Consumption

- Projections are now lower than pre-energy crisis levels

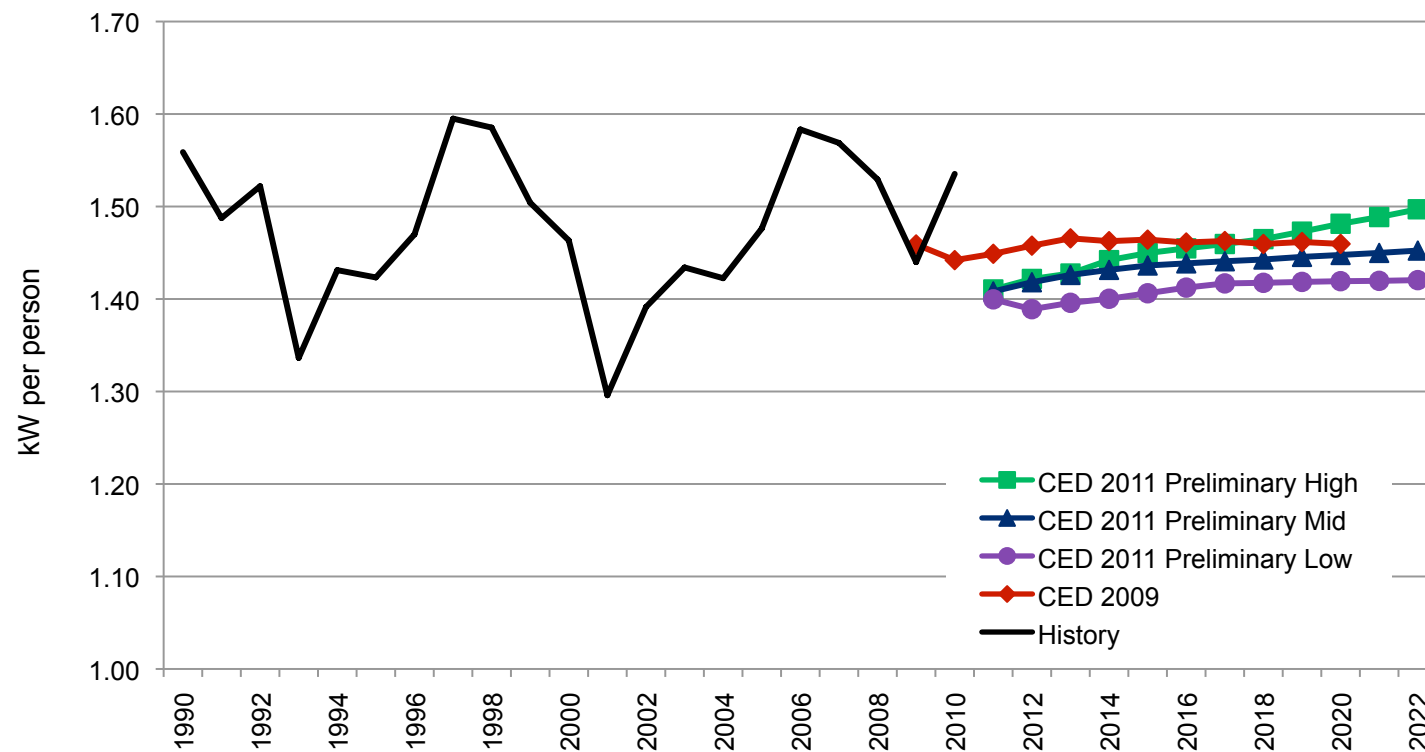




California Energy Commission

LADWP per Capita Peak

- Each scenario grows at a faster rate than the CED 2009





LADWP Residential Forecast

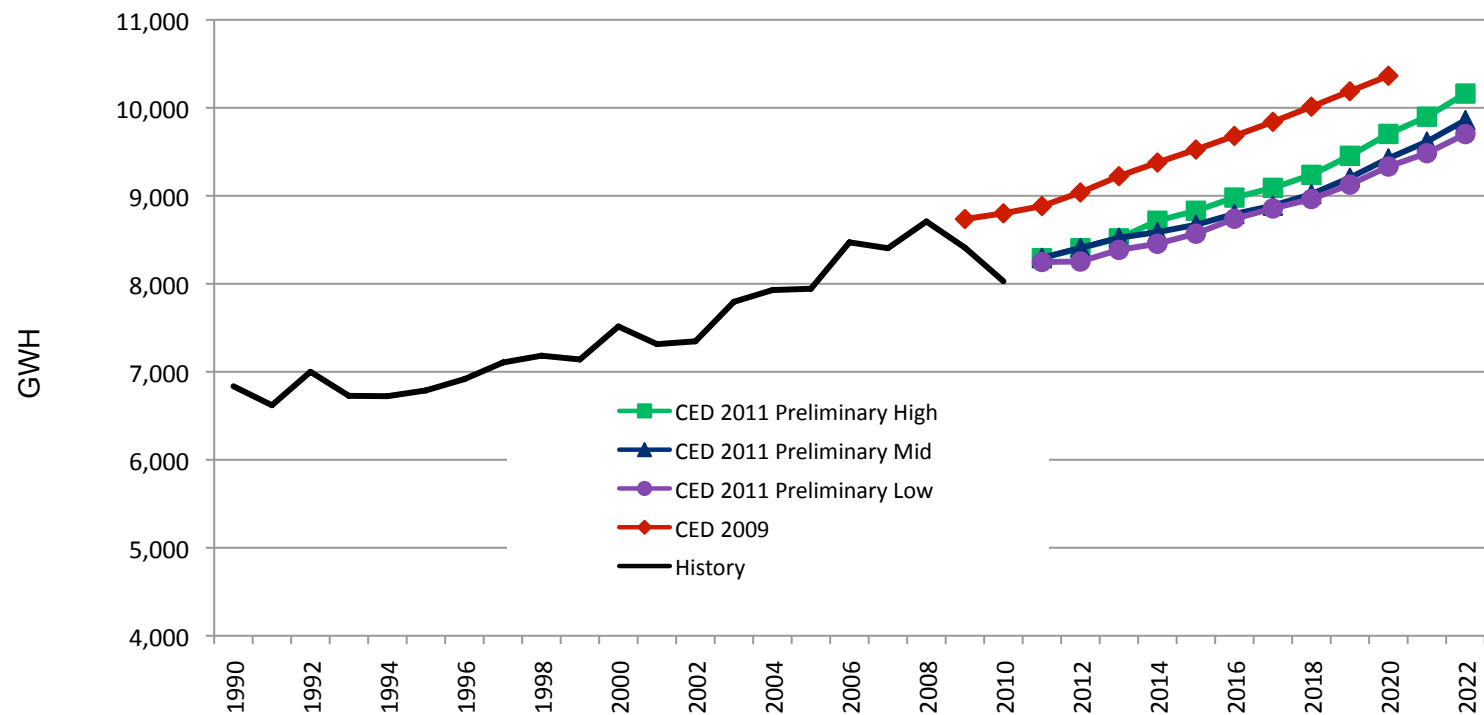
- 2010 consumption was over 8% below *CED 2009* projections
- *CED 2011* forecast growth rates are similar to *CED 2009*
- Higher household growth in all three cases
- Use per household increases slightly from a lower initial value
- Electric vehicle consumption drives growth in use per household later years



California Energy Commission

LADWP Residential Consumption

- All cases show growth similar to *CED 2009*

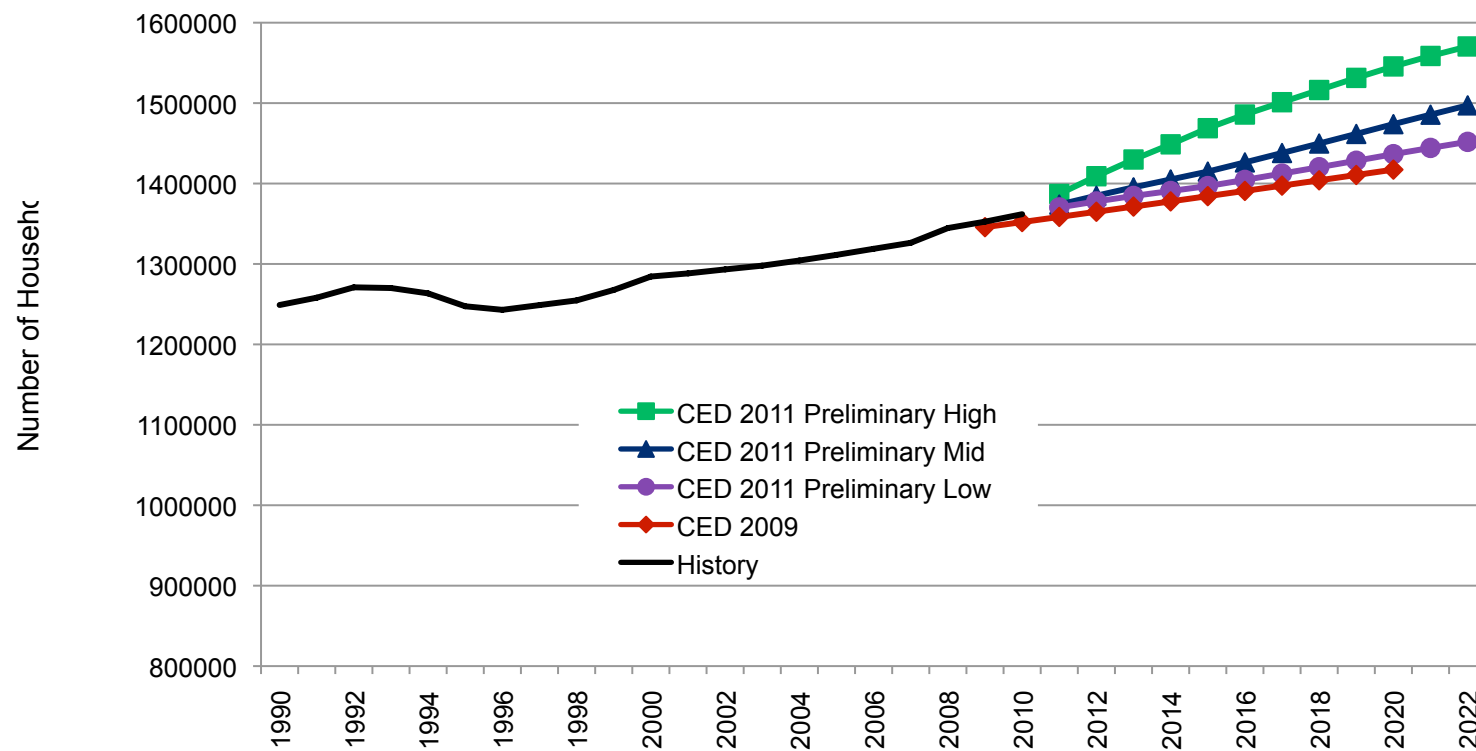




California Energy Commission

LADWP Households

- All three cases have higher growth rate than *CED2009*

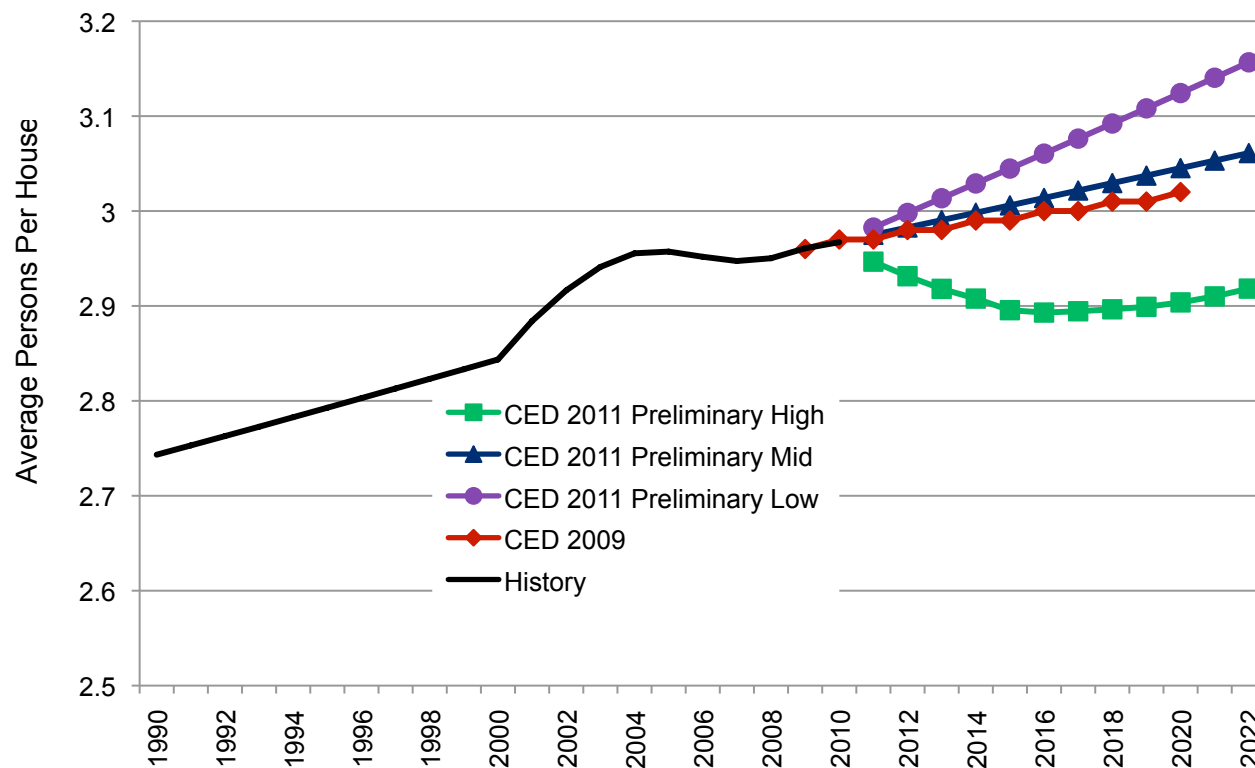




California Energy Commission

LADWP Persons per Household

- Mid and low cases derived historic trend analysis, higher than *CED 2009*
- High scenario from Economy.com projections

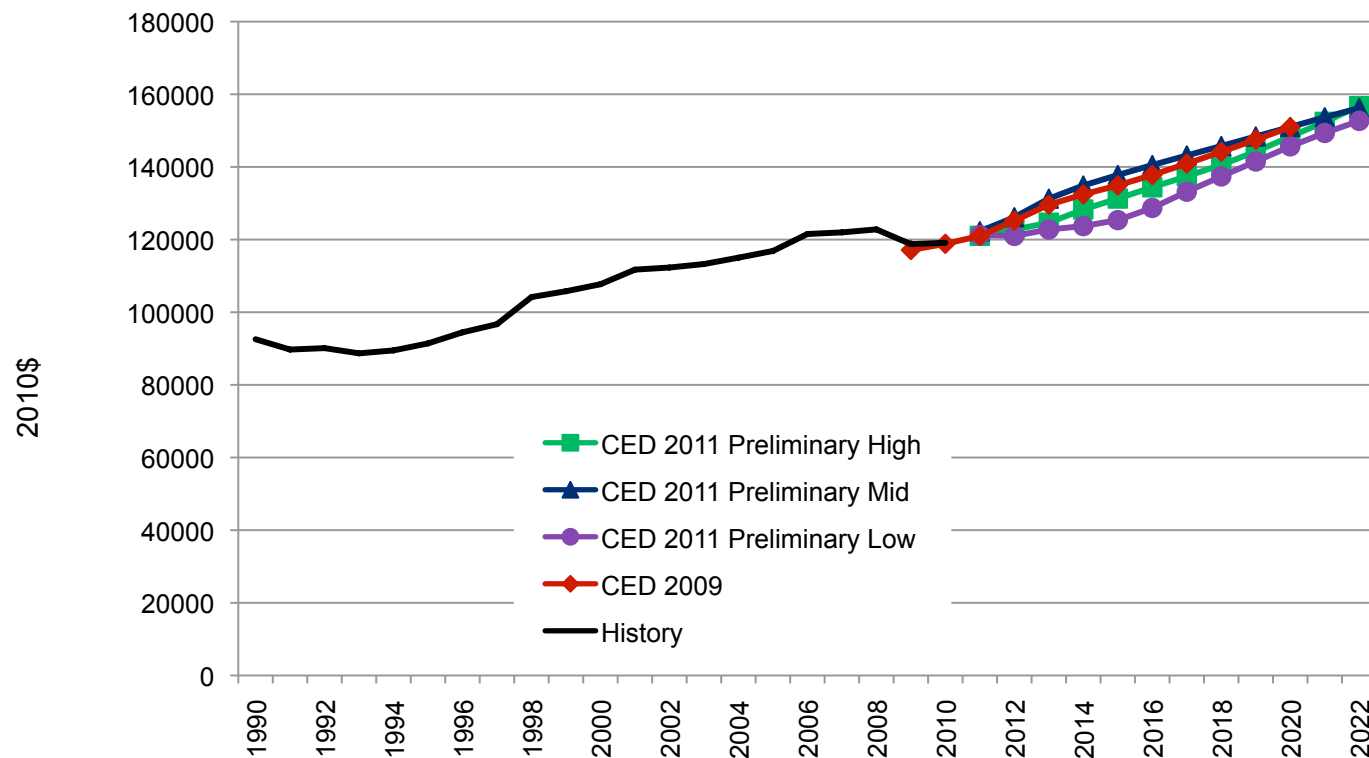




California Energy Commission

LADWP Household Income

- Person per household assumptions affect income cases

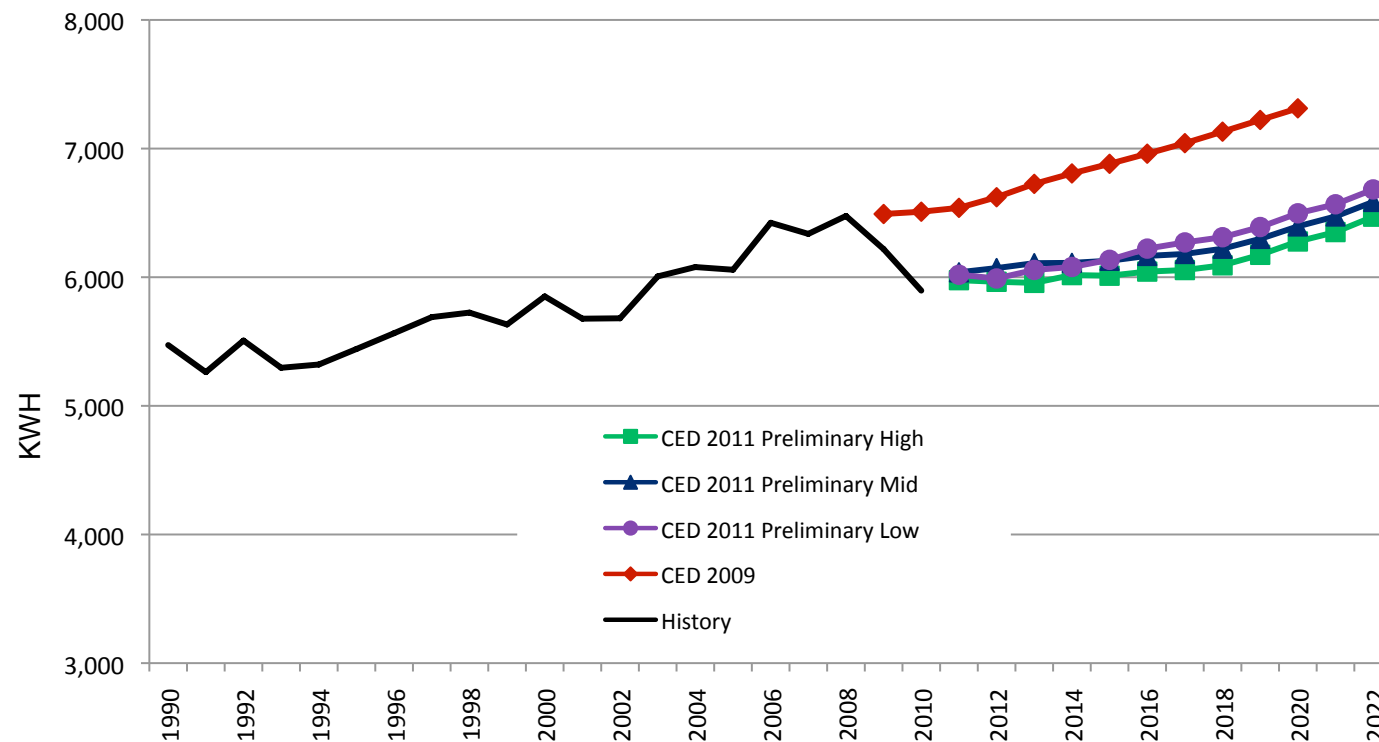




California Energy Commission

LADWP Residential Use per Household

- CED 2011 lower due to a lower consumption forecast





LADWP Commercial Building Sector

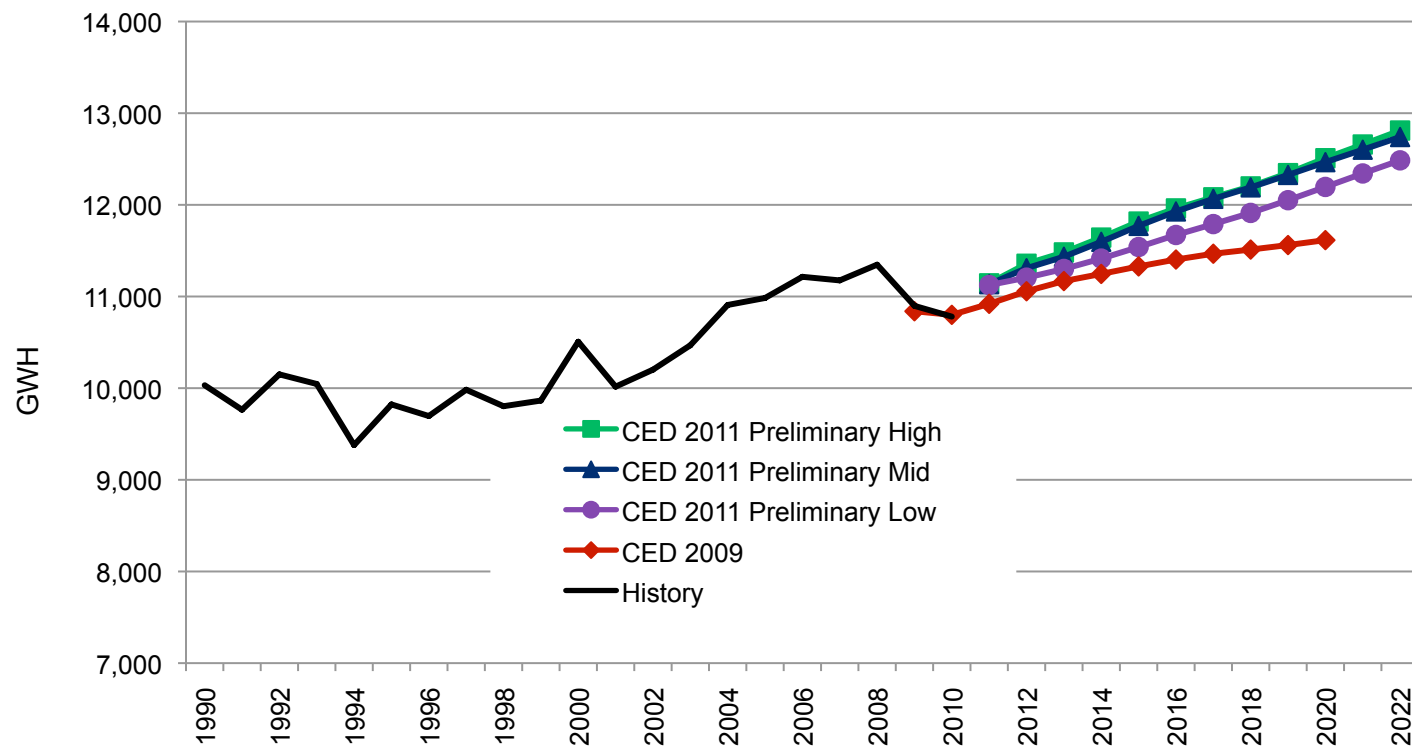
- Consumption forecasts higher than CED 2009 from increased floor space projections



California Energy Commission

LADWP Commercial Building Consumption

- All three cases grow faster than the CED2009

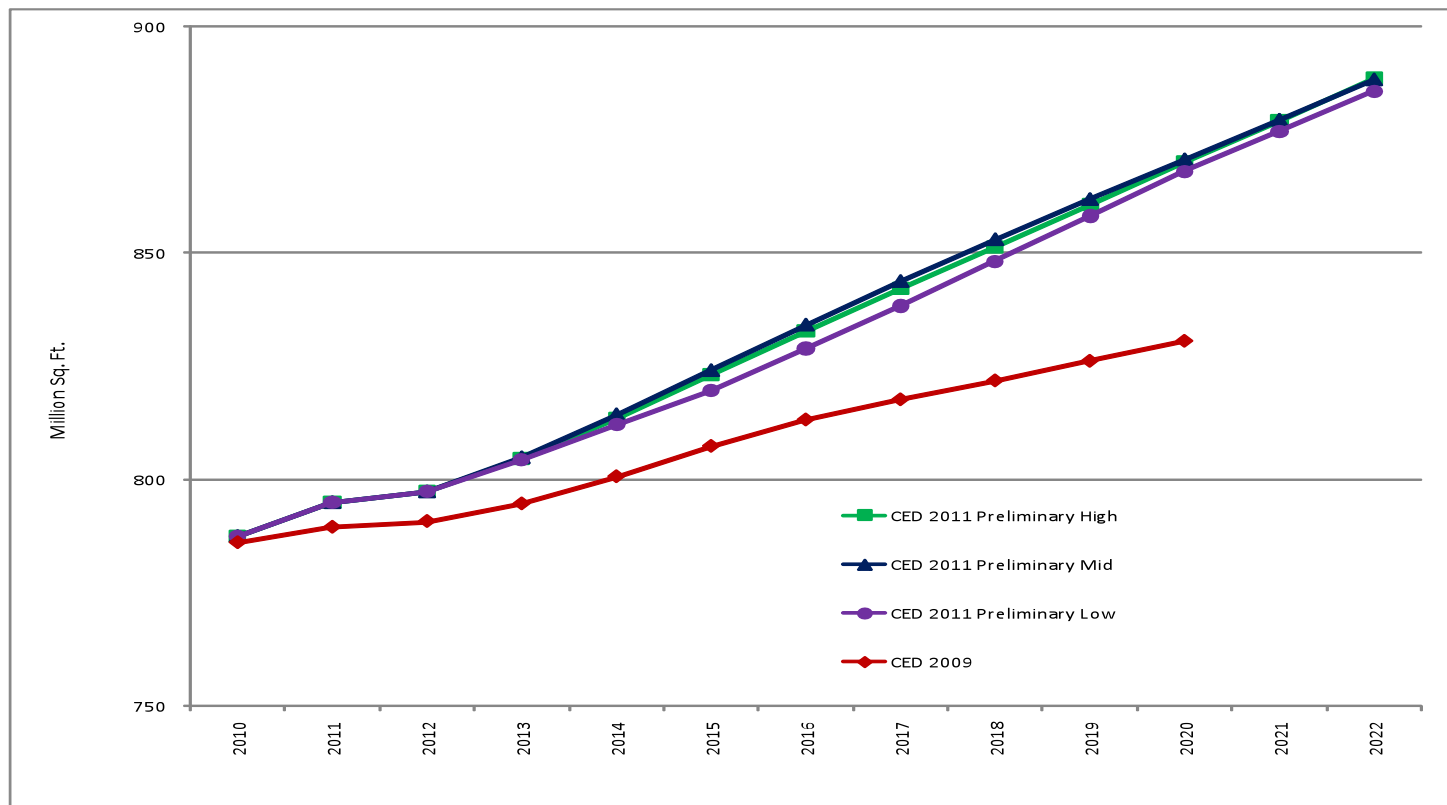




California Energy Commission

LADWP Commercial Floor Space

- All three cases with higher growth rate





LADWP Industrial Sector

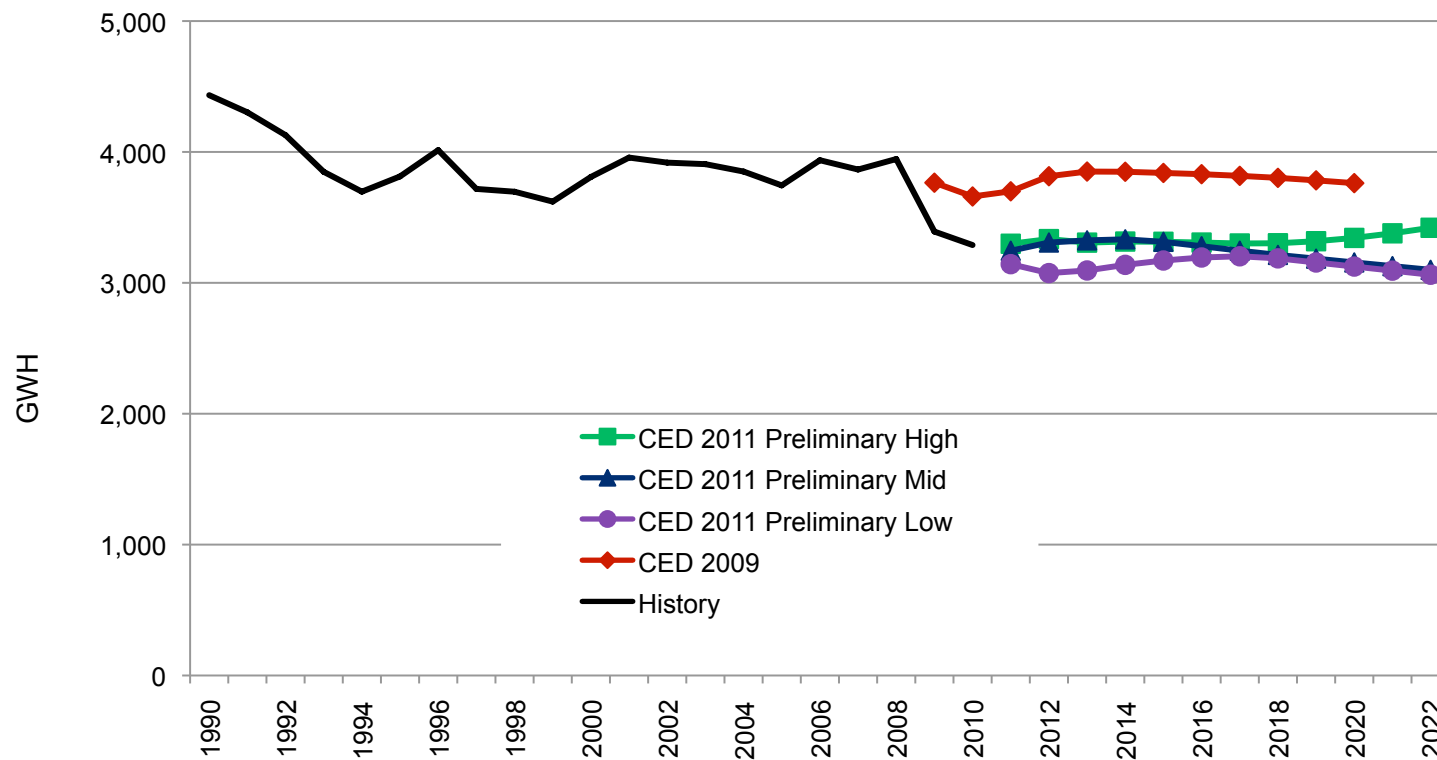
- 2010 reported consumption was 10% below projected *CED 2009* value
- Low and mid cases decline similarly to *CED 2009*
- High scenario growing by end of forecast period



California Energy Commission

LADWP Industrial Sector Consumption

- All cases affected by low levels of 2009 and 2010 consumption





LADWP Other Sectors

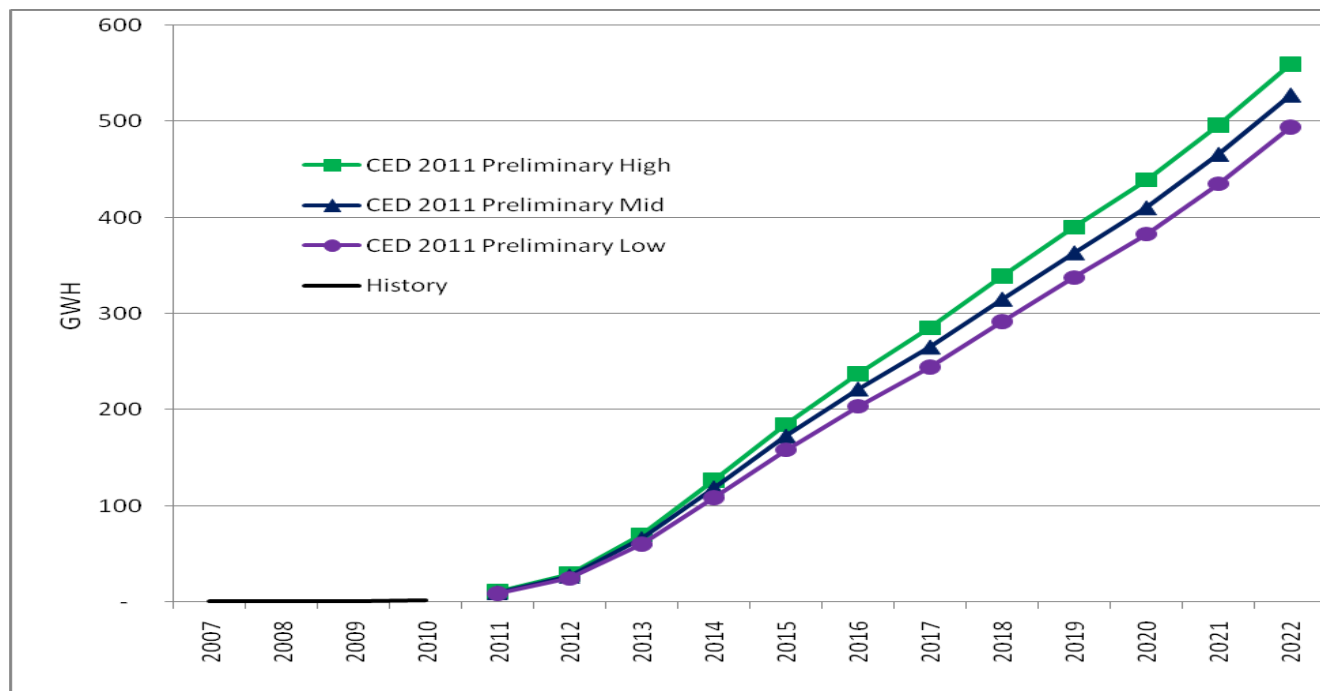
- Remaining sectors comprise about 8% of total 2010 consumption:
 - 7% Transportation, communications and utilities
 - 0.25% Agriculture and Water Pumping
 - 0.75% Streetlighting
- Forecasts have similar growth to CED 2009
- Electric vehicle use is projected to increase total consumption by about 2% by 2022 (mostly residential)



California Energy Commission

LADWP Electric Vehicle Forecast

- Peak impacts are projected to be from 20 MW to 25 MW in 2022



Source: California Energy Commission, 2011



Committed Efficiency Savings and Self Generation

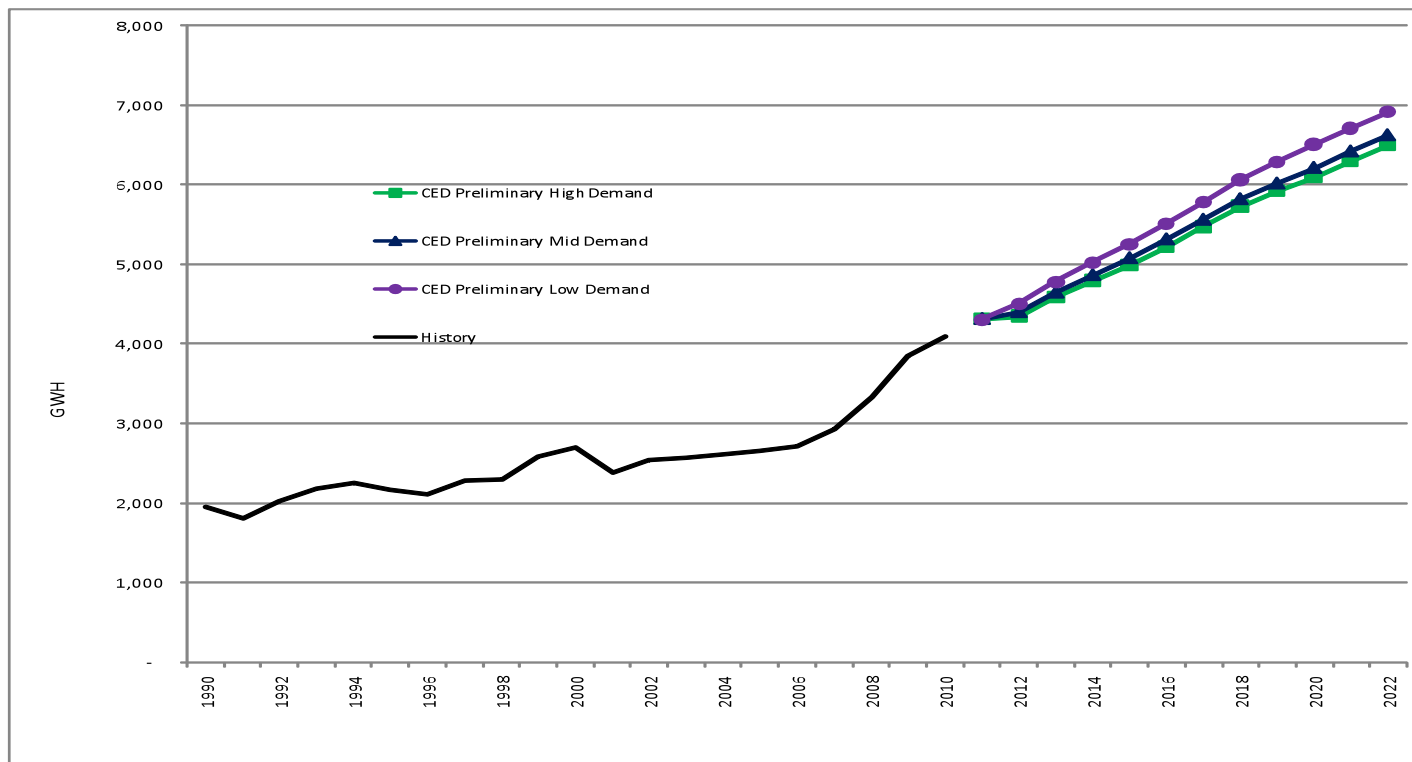
- Committed efficiency savings amount to 25% of consumption and peak by 2022
- Self generation forecast is based new adoption model



California Energy Commission

LADWP Committed Efficiency Savings Estimates

- Results follow recent historic trend



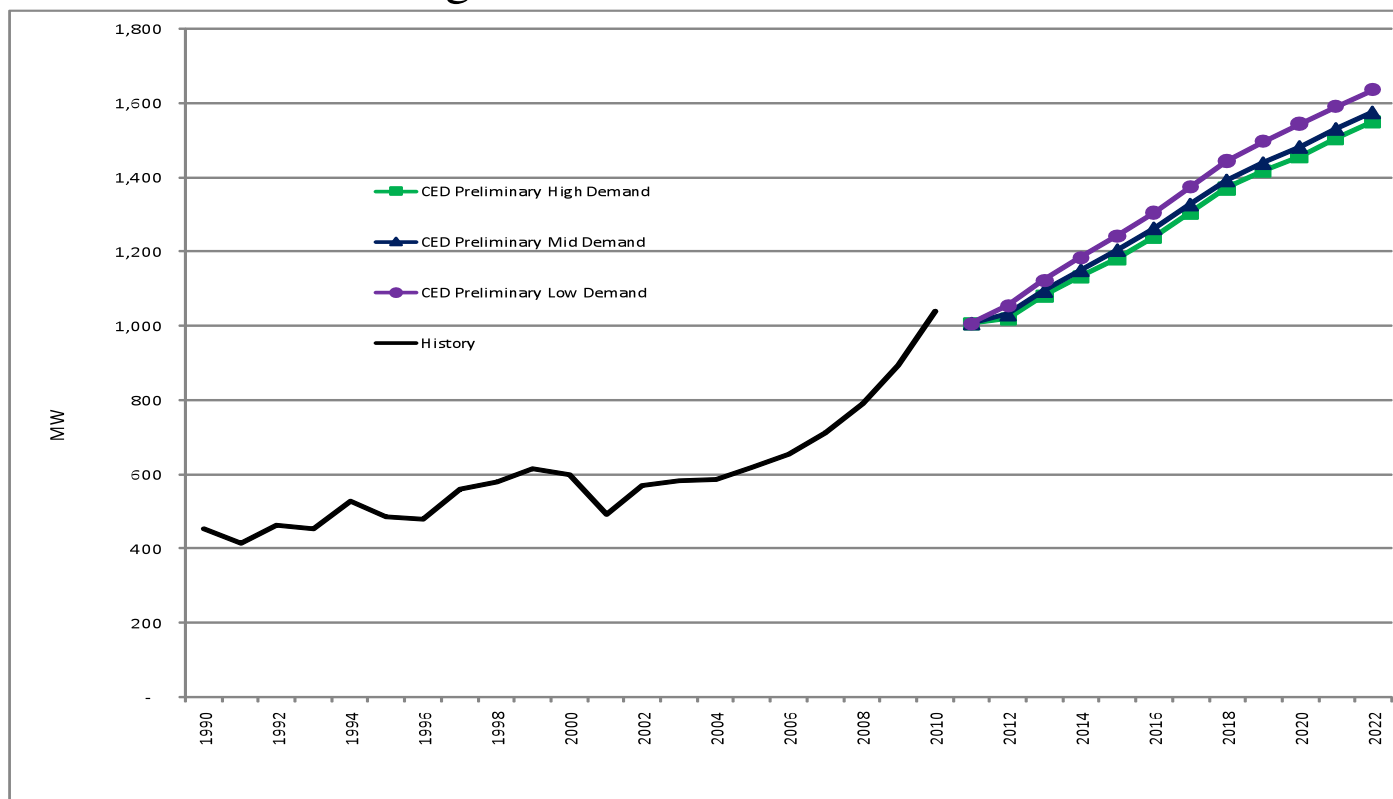
Source: California Energy Commission, 2011



California Energy Commission

LADWP Committed Efficiency Peak Savings Estimates

- Results follow longer historic trend



Source: California Energy Commission, 2011



California Energy Commission

LADWP Self Generation Peak Savings Estimates

- Mid case reduces peak by 3% in 2022

	1990	2000	2010	2015	2020	2022
Non-PV Self-Generation	148.50	196.70	179.78	179.83	179.90	179.96
PV, low case	0.00	0.22	12.65	22.13	41.50	56.06
PV, mid case	0.00	0.22	12.65	22.04	40.44	54.38
PV, high case	0.00	0.22	12.65	22.18	40.90	55.00
Total Self-Generation, low case	148.50	196.91	192.43	201.96	221.40	236.02
Total Self-Generation, mid case	148.50	196.91	192.43	201.88	220.33	234.34
Total Self-Generation, high case	148.50	196.91	192.43	202.02	220.80	234.96

Source: California Energy Commission, 2011



Comparison to LADWP Forecast

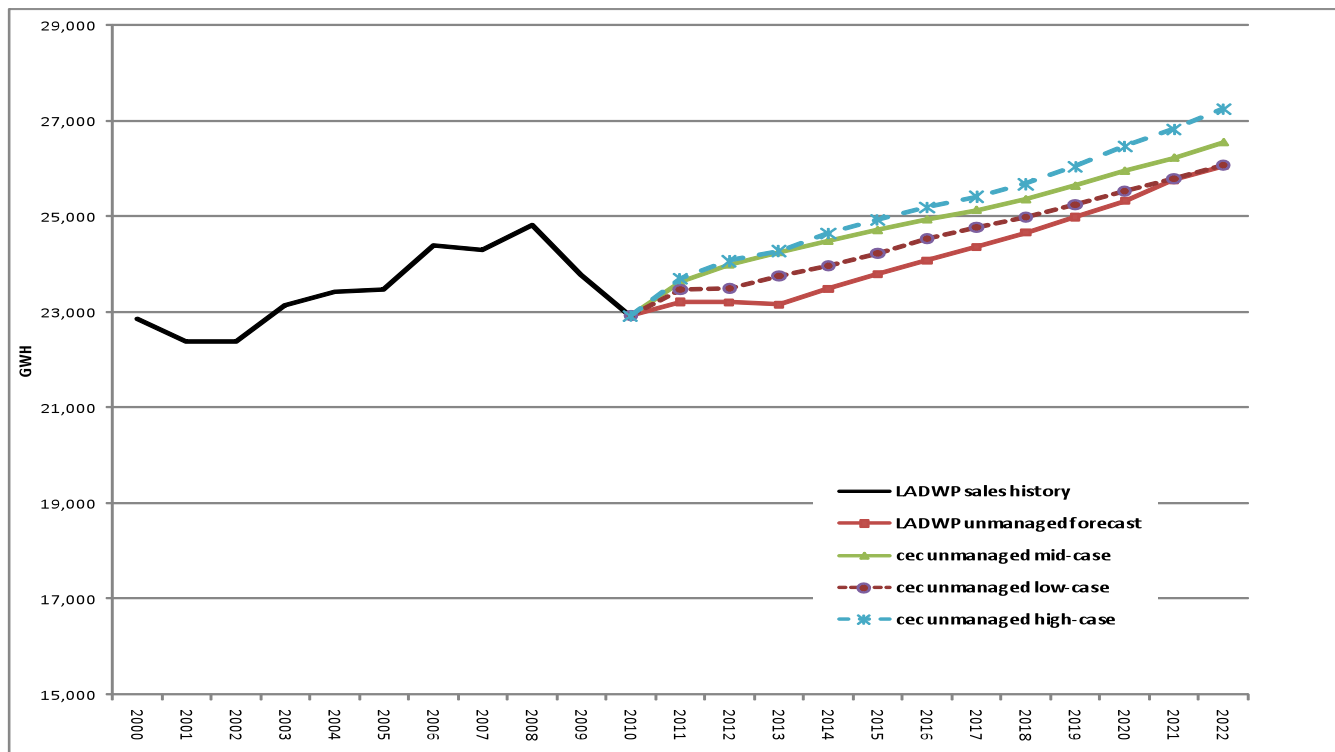
- LADWP only has unmanaged forecast
- LADWP unmanaged sales forecast is lower than all *CED 2011* cases
- Forecast differences are split equally between residential and non-residential sectors
- LADWP unmanaged peak forecast is lower than all *CED 2011* cases



California Energy Commission

LADWP Unmanaged Forecast Comparison

- LADWP forecast lower than all CEC cases



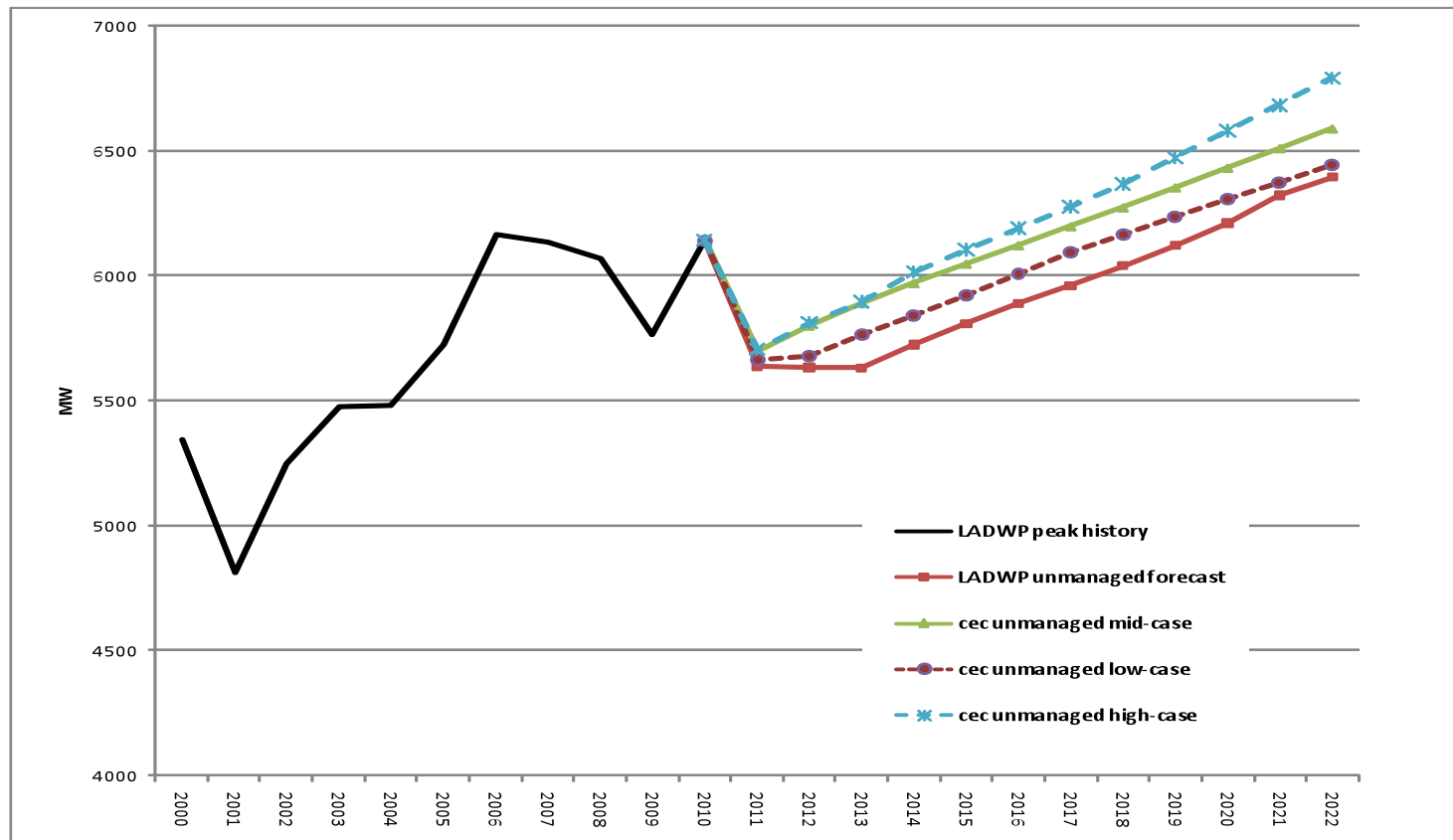
Source: California Energy Commission, 2011



California Energy Commission

LADWP Unmanaged Peak Comparison

- LADWP lower than all CEC cases



Source: California Energy Commission, 2011